

AMENDMENTS TO THE ABSTRACT

Please replace the originally filed Abstract with the substitute Abstract on the following clean page.

ABSTRACT OF THE DISCLOSURE

A low cost system and method are provided for long-term monitoring of the quality of a building structure utilizing a semiconductor integrated circuit device buried in the structure. A monitoring chip includes a sensor, a microprocessor, a memory, a radio interface, an electric power controller and an electric power generator. The monitoring chip intermittently receives power to intermittently monitor information such as whether concrete is adequately cured, whether the quantity of moisture and chloride ions in concrete paste is adequate, or whether a state of stress inside concrete is in question. Temperature sensors, electric resistance sensors and pressure sensors respectively built in the monitoring chip use the built-in electric power generator as a power source, and the system store any abnormal measured values in a built-in memory. Collected quality data is transmitted according to an external request to indicate building structure quality.